

## **Spectral Analysis System with Moving Objective Lens**

### **ABSTRACT OF THE DISCLOSURE**

For identifying black plastics effectively and rapidly, it is desirable to maintain full laser power while reducing the power density. This is achieved by the incorporation of a moving lens that disperses the 0.5mm laser spot over a larger area typically of about 5mm in diameter. The entire signal from the larger (5mm) diameter is collected at the same spot in the fiber bundle leading to a Raman or other spectral analyzer. There are no other modifications required for the rest of the system as the moving lens does not affect the collection efficiency of the characteristic signal from the sample.